

REMARKS

Reconsideration of the instant application is respectfully requested. The present preliminary amendment is submitted in conjunction with a Request for Continued Examination (RCE), pursuant to 37 CFR 1.114. The RCE is submitted in response to the Final Office Action of September 4, 2003, in which claims 1-13 and 15-19 stand rejected. A proposed amendment after final, dated October 10, 2003, was not entered on the grounds that it would raise new issues that require further consideration and/or search, as set forth in the Advisory Action dated October 29, 2003.

As an initial matter, corrected drawings are resubmitted herewith in response to the acceptance of the proposed drawing corrections filed on July 21, 2003.

With regard to the claims still pending, claims 1-6, 8 and 9 remain rejected under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent 5,980,638 to Janos, in view of U.S. Patent 6,182,603 to Shang, et al. (Shang). Claim 7 also remains rejected under 35 U.S.C. §103(a), as being unpatentable over Janos, in view of Shang, and in further view of U.S. Patent 5,595,606 to Fujikawa, et al. (Fujikawa). Furthermore, claim 10 remains rejected under 35 U.S.C. §103(a), as being unpatentable over Janos, in view of Shang, and in further view of U.S. Patent 5,968,275 to Lee, et al. (Lee).

In addition, claims 11-13 and 15-18 are rejected under 35 U.S.C. §103(a), as being unpatentable over Janos, in view of Shang, and in further view of Fujikawa. Finally, claim 19 is rejected under 35 U.S.C. §103(a), as being unpatentable over Janos, in view of Shang, in further view of Fujikawa, and in further view of Lee. For the following reasons, however, it is respectfully submitted that the application is now in condition for allowance.

Claim 1 has been amended to more particularly point out the structural relationship between the RF antenna of the supplemental ion source and the process

chamber. Support for this amendment may be found at least in paragraphs [0030]-[0037] (pages 8-11) of the specification. More specifically, claim 1 now recites that the RF antenna is located both proximate the process chamber and also exterior with respect to the process chamber. As was pointed out previously by the Applicants and agreed to by the Examiner, Janos does not teach a supplemental ion source (and more particularly, an RF antenna) proximate the process chamber. Although Shang discloses an RF power source, there is no teaching or suggestion therein of an RF antenna (or, in the parlance of the Examiner, a “plasma generating electrode”) disposed proximate and outside the process chamber. To the contrary, as the Examiner has pointed out on page 5 of the Final Office Action, “[the] RF power source 36 is coupled to the showerhead 16 serving also as a plasma generated electrode (column 4, lines 15-45).” Furthermore, even in an alternative embodiment, “the top wall 14 can be solid with the electrode 16 adjacent to the inner surface of the top wall.” (Shang, col. 4, lines 27-29) Again, the present claims require the RF antenna to be exterior to the process chamber.

Moreover, Janos does not teach that the inlet baffle plates 6a’, 6b’ disclosed therein may be configured for shielding capacitive sheath potentials because there is no teaching or suggestion that the baffle plate(s) are grounded or may otherwise be used as a capacitive electrode for an external RF source. Therefore, because all of the elements of claim 1 are not taught in Janos, Shang or any of the other art of record, either alone or in combination, the obviousness rejections as to claims 1-10 have been overcome.

Claims 33 and 34 are newly added to more particularly point out that at least one of the upper and lower baffle plates is an electrical conductor that is grounded, and that the grounded plate includes a dielectric coating. Support for these claims may be found in at least paragraph [0038] of the specification. Since these features are also not taught or suggested in the references of record, claims 33 and 34 are patentable on this additional basis, in addition to the reasons set forth above. More specifically, Shang teaches a baffle plate assembly (showerhead 15A, 15B) as part of the first electrode 16 (col. 4, lines 37-39; Fig. 1) and thus at the same electric potential (i.e., not grounded). It

is the susceptor 18 (chuck) that is actually shown as the ground connection in Shang (col. 4, lines 49-52; Fig. 1).

Finally, claim 35 is also newly added to more particularly point out that the baffle plate assembly is configured so as to cause said secondary discharge to be shaped in substantially a micro-jet formation. Support for this claim may be found in at least paragraph [0044] of the specification. Since the micro-jet formation is not taught or suggested in the references of record, claim 35 is patentable on this additional basis, in addition to the reasons set forth above.

Accordingly, each of the obviousness rejections to claims 1-10 have been rejected and it is respectfully requested that the same be withdrawn. Since claims 11-20 have been cancelled, it is further respectfully submitted that the application is in condition for allowance. No new matter has been entered and no additional fees are believed to be required. However, if any fees are due with respect to this Amendment, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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